

CALIFORNIA STATE BOARD OF HEALTH

MONTHLY BULLETIN

Vol. 9

JUNE, 1914

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THE CALIFORNIA STATE BOARD OF HEALTH.

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Divisions: Biological Examinations; Preventive Therapeutics; Epidemiological Investigations.

5. Bureau of Foods and Drugs.

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WALTER V. BREM, M.D.

Division Bacteriologist.....Brockman Building, Los Angeles

REGULAR MEETINGS.

The meetings of the California State Board of Health are held regularly the first Saturday of each month, but the quarterly meetings required by law to be held at the Capitol of the State are ordinarily designated as January, April, July, and October.

By courtesy of the University of California, the Food and Drug Laboratory and the Hygienic Laboratory are located in University buildings at Berkeley, California.

Address all communications to the

SECRETARY, Sacramento, California.

JUNE BULLETIN

REPORT OF THE BUREAU OF ADMINISTRATION FOR MAY, 1914.

JOHN F. LEINEN, Director.

More cases of leprosy have been reported during the month of April than for some time, the total number for the month being six cases, Los Angeles County reporting three cases, San Francisco, San Bernardino and Oakland each reporting one case.

Source of infection for various communicable diseases reported during April have been found outside of the State. Most of these cases were smallpox, the source of infection being in Texas, Missouri, Oklahoma, Iowa and Arizona. One typhoid fever case was reported, the source of infection being in Illinois. The health officers of these various states were notified, in order that they might discover any foci hitherto unknown to them.

W. E. Coppedge, Health Officer for Modoc County, requested that a representative of this Board be sent to Alturas in order to confirm or refute a diagnosis of smallpox. He was informed that it was not possible to comply with the request, but was advised to decide in favor of the graver disease in order to protect the people of his district. Altogether, eighteen cases were reported from this county, but it is assumed that the situation is well controlled at the present time.

Five cases of trachoma were reported during the month of April; three of these were among Indians upon Government reservations, and hence, not under the jurisdiction of this Board. Two cases were reported from Los Angeles.

A death from glanders (farcy form) occurred at Thermalito, Butte County. The attending physician has been asked to supply clinical history of the case.

In accordance with instructions from the Secretary, Dr. J. C. Geiger, Chief Bacteriologist, went to San Jose May 6, 1914, where he read a paper, "Rabies and its Treatment," before the Santa Clara Medical Society, the mayor and councilmen of San Jose, the board of supervisors and interested citizens.

Surgeon John D. Long, United States Public Health Service, in charge of plague eradication operations in California, informed this office on May 12th that squirrels had been found infected with plague during the calendar year at the following places: San Benito, McCray ranch, seven miles south of Hollister, one squirrel found dead March 24th proved positive March 30th; McCray ranch, ten miles south of Hollister, one squirrel shot April 14th proved positive April 28th; Monterey County, Mrs. M. E. Kelley ranch, four miles northeast of Castroville, one squirrel shot April 10th proved positive April 28th. Total number of plague infected squirrels found during 1914 to date—three.

Three cases of pellegra have been reported during the month of April, one from Merced County and two from Mendocino County. The

latter two had been in California for many years, but the case in Merced County had recently come from the East.

By means of circular letters sent to county and state hospitals, it is learned that these institutions are extremely negligent in reporting cases of communicable disease to the local health officers. Health officers have been instructed to get such reports from all institutions not now reporting them.

On May 11th Dr. Allen F. Gillihan, Health Director, Oakland, reported four cases of smallpox in the family of a man named Page, who conducts a cleaning and dyeing establishment. Dr. Gillihan reported that he had secured the names and addresses of all persons who had clothing at this establishment during the past month, and that he had vaccinated most of these persons. Dr. Gillihan's recommendations for the formation of districts, in which to enforce exclusion provisions of the vaccination act, including four public schools, were approved.

Dr. W. E. Dozier, Health Officer at Susanville, has reported several cases of "tick fever." From his case histories it would appear that the disease is not Rocky Mountain spotted fever, although he has been asked to investigate further in order to obtain a correct diagnosis.

Dr. L. M. Powers, Health Commissioner at Los Angeles, wired this office on May 18th, stating that a colored boy suffering from smallpox had arrived that day from the Sacramento Ranch at San Luis Obispo, where he had worked for a month. The matter was taken up with the County Health Officer at San Luis Obispo, who investigated, reporting that no further cases had been found.

On May 11th a smallpox patient was discovered on a through train from Los Angeles. This discovery was made near San Jose. The car was locked up and sent to the Oakland Mole, where it was met by Dr. Gillihan, Health Director of Oakland, who had the car fumigated, vaccinating all contacts and gathering the names, addresses and destinations of all such persons. A list of these names was supplied to this office, and the health officers for all cities, to which contacts were journeying, were instructed to watch for any suspicious cases that might occur.

During the past two months cases of smallpox have been found upon trains in four instances, twice at Los Angeles and twice at Oakland. Three of these cases came from Texas.

The State Librarian has asked this office to supply photographs for a loan collection of lantern slides for circulation in the State, now in course of preparation. The Librarian was informed that most of the photographs on file in this office are of insanitary conditions and of doubtful interest to the general public. But he was further informed that all such material in this office would be available for his use at all times, should he desire it.

The board of trustees at Woodland appointed a board of health on May 6th, which board served for a period of twelve days before resigning, the resignation being due to the small salary, \$15.00 per month, awarded to the secretary of the board, said salary to begin on October 1, 1914. This office has called the attention of the board of trustees at Woodland to the Political Code, which requires the appointment of a board of health in each incorporated city.

During the past month it has been found that, by checking mortality records with morbidity records, physicians throughout the State have

neglected to report cases of diphtheria and typhoid fever, especially. All such cases of non-reporting have been called to the attention of the local health officer, with instruction to take such steps as he might deem necessary, in order to secure all reports of communicable disease from these physicians in the future. In some cases the facts in the matter have been referred to the district attorney, but this Board has no knowledge of prosecutions having been started.

County health officers have been asked to supply a list of leprosy cases within their jurisdiction, with full particulars concerning each case. It is planned to keep a complete state register of all cases, containing all data obtainable.

A package labeled "Epsom Salts" was sent to the office with a letter from Mr. Edward Weit, of Wasco, Kern County, stating that the package had been purchased in a drug store of Wasco, and that after taking a dose of the contents the person had been taken seriously ill. An examination was made at the State Food Laboratory and the presence of zinc sulfate was ascertained. Inspector Gourley was sent to Wasco to investigate and official samples were taken, but proved to be all right. However, another package labeled "Epsom Salts" was sent to the Laboratory for examination by Mr. Scanlon of Wasco, and it too proved to be largely zinc sulfate. In view of these facts Professor Jaffa deemed it advisable that the Health Officer of Kern County be informed that purchasers of "Epsom Salts" at the Wasco Drug Store, prior to May 20th, the date of the official inspection when everything was found in order, be warned that the packages purchased probably contained zinc sulfate. This was done. Based upon Professor Jaffa's statement that zinc sulfate has been frequently found in packages labeled "Epsom Salts," the Secretary ordered that inspectors be instructed to take samples of epsom salts in all drug stores visited. This is being done at the present time.

Applications have been received from Sunnyvale, Santa Clara County, and California Hot Springs, Tulare County, for permission to install sewer systems.

A complaint has been received from the South Bay Yacht Club to the effect that the Western Distilling Company is emptying its sewage directly into Guadalupe Creek, below Alviso; that the fish have died and the stream is black and offensive. The Health Officer has been requested to investigate and report.

The Director of the Hygienic Laboratory has examined and reported upon the following water supplies during the month: Fall River Mills, Siskiyou County; Sierra Railroad; Yosemite Railroad; Hanford; Trinity County High School; Benicia Grammar School.

A request was received from the Fish Seed Company, of Los Angeles, for information regarding a sewer system for the town of Carpinteria. This request was referred to the consulting engineer.

Dr. Sawyer has filed with the Board a report on "The Effect of the Septic Tank on Pathogenic Bacteria in Sewage."

A complaint was received from residents of Palmdale, Los Angeles County, regarding the water supply. The Health Officer was instructed to investigate and filed a report to the effect that the complainants were on a water main which was being repaired and is now in good condition.

The Secretary investigated the disposal of the Riverside sewerage and found that a portion of the disposal constituted a public nuisance and so informed the Health Officer and instructed him to consult with the district attorney in an effort to remedy conditions.

Sanitary Inspector E. T. Ross has investigated and reported upon the following inspections during the month. These reports are on file in this office: The Associated Pipe line Company's Camp at Mendota, Fresno County; Los Banos Water Supply; the City of Hanford; the City of Woodland; Santa Fe Railroad Station at Richmond; Yolo County Jail; Woodland's Sewage Disposal; Sacramento-Woodland train; and Southern Pacific trains Nos. 17, 23, 24, 29, 31, 36, 48, 53, 60, 73, 79, 82, 85, 121, 313, 558, and 1409.

A letter was received from Dr. C. H. Whitman, superintendent of the Los Angeles County Hospital, regarding the Federal investigation of the migration of tubercular persons, and an abstract was enclosed of resolutions of the board of directors of the Los Angeles Society for the Study and Prevention of Tuberculosis, which read as follows:

"Whereas the U. S. Public Health Service is asking information concerning the distribution of tuberculosis among the people of the Pacific Southwest; and

Whereas it is impossible to give this much needed information on vital statistics, because the facilities do not exist for getting this information; now be it

Resolved by the board of directors of the Los Angeles Society for the Study and Prevention of Tuberculosis, that the Los Angeles board of supervisors be requested to provide for the institution of a registrar of vital statistics for Los Angeles County."

When in Los Angeles, the Director of the Bureau of Tuberculosis met with the Los Angeles Tuberculosis Society and consulted with the Los Angeles recorder regarding this question.

A communication was received from Governor Johnson giving the personnel of the committee appointed at the request of Governor Colquitt of Texas in accordance with the plan of the latter for obtaining the support of California for the Shafroth-Calloway bill for Federal care of stranger consumptives in the Southwest.

A letter was received from Dr. Thomas H. A. Stites, Medical Inspector of Dispensaries of Pennsylvania, containing an invitation from the Commissioner of Health, Dr. Samuel G. Dixon, to make a personal visit of inspection of the Pennsylvania State Tuberculosis Dispensaries, and offering an escort for such inspections; also a comprehensive description of the Pennsylvania dispensary system with numerous bulletins, reports and forms on the subject. This invitation was finally accepted.

The superintendent of the Tulare County Hospital has requested plans for tuberculosis cottages or wards.

Dr. Gillihan of Oakland has adopted a tentative form for the registration of tuberculosis which is nearly identical with the form submitted to the State Board of Health.

April 12th to May 1st was spent by the Director of the Bureau of Tuberculosis on a trip of inspection of county and private hospitals and the Soldiers' Home in the southern part of the State, and attending the medical meeting at Santa Barbara, in which he presented a

paper upon the work of the Bureau, and in conferring with health officers and persons interested in tuberculosis work in this section. An investigation was also made of dispensary work in San Diego, where a talk was given to the County Medical Society on registration.

The Director of the Bureau of Tuberculosis made the following inspections during the month: Fresno County Hospital, Fresno; Merced County Hospital, Merced; Stanislaus County Hospital, Modesto; Madera County Hospital, Madera; and Yolo County Hospital, Woodland.

In accordance with the action of the Board, taken at its meeting April 4, 1914, Sanitary Inspector Ross, in conjunction with Professor M. E. Jaffa, investigated and reported on the ventilation and temperature in steel and wooden coaches, and recommended that another inspection be made when conditions are more favorable.

During the month nurses' application papers were received on an the Director of the Bureau of Registration of Nurses: Evan's Hospital, Modesto, and Merced Sanitarium, Merced. The latter training school had just gone out of existence.

A paper on registration was given before the Alameda County Nurses' Association which association possesses 300 nurses; 200 were present.

During the month nurses application papers were received on an average of about fifty a day. In order to examine these papers carefully and to attend to the increased office work of the Bureau the inspection of training schools has been deferred until this acute stage of the work ceases.

REPORT OF THE BUREAU OF TUBERCULOSIS FOR MAY, 1914.

BURT F. HOWARD, M.D., Director.

Inspections were made during the month of the tuberculosis departments of the Fresno County Hospital, Fresno; Merced County Hospital, Merced; Stanislaus County Hospital, Modesto; Madera County Hospital, Madera, and Yolo County Hospital, Woodland.

Reports were submitted to the State Board of Health on the following institutions: Alta Sanatorium, Alta; Dispensary of the Alameda County Society for the Study and Prevention of Tuberculosis, Oakland; Martyn's Sanatorium, Altadena; La Vina Sanatorium, Altadena; Dr. King's Sanatorium, Banning; Barlow Sanatorium, Los Angeles; "Broadway Dispensary," Los Angeles; Loma Linda Free Dispensary, Los Angeles; Dispensary of the Society for the Study and Prevention of Tuberculosis, San Diego; Bethlehem Institute, Los Angeles; Dr. Pottinger's Sanatorium, Monrovia; Desert Inn, Palm Springs; Mrs. Marshall's Home, San Bernardino; Butte County Jail, Oroville; San Joaquin County Jail, Stockton; Yuba County Jail, Marysville; Monterey County Hospital, Salinas; San Luis Obispo County Hospital, San Luis Obispo; I. O. O. F. Sanatorium, Lopez Canon, Los Angeles County; St. Thomas Hospital, El Centro; Kern County Hospital, Bakersfield; Tulare County Hospital, Visalia; Fresno County Hospital, Fresno; Merced County Hospital, Merced; Stanislaus County Hospital, Modesto; Madera County Hospital, Madera; Yolo County Hospital, Woodland; and St. Thomas Aquinas Sanatorium, Mentone.

REPORT OF THE BUREAU OF REGISTRATION OF NURSES FOR MAY, 1914.

ANNA C. JAMMÉ, R.N., Director.

At a meeting of the Board held on June 6th, licenses for certificate as registered nurse without examination were granted to 1,174 applicants.

On July 1st the waiver ceases, and after this date all applicants are subject to examination unless already registered in another state or foreign country according to section 8 of the law, as follows:

"The board upon written application and upon the receipt of ten dollars as registration fee, shall issue a certificate of registration without examination to any applicant who has been duly registered as a registered nurse under the laws of another state or foreign country having requirements equivalent to those provided for by this act."

Laws governing the licensing of graduate nurses and regulation of training schools have been passed in thirty-eight states since 1903 and in the following foreign countries:

Cape Colony, 1891.

The Transvaal, 1891.

Australia, 1899.

New Zealand, 1901.

Orange Free State, South Africa, 1904.

The principle of registration of nurses and state control of training schools has been advocated in every state and foreign country where schools for nurses exists. Pursuant to this principle the following resolution was moved and unanimously carried at the International Council of Nurses held in Berlin, in June, 1904:

"Whereas, The disorder existing today in nursing conditions is due chiefly to inequalities of training and different standards; and

Whereas, The serious and responsible work of a nurse demands not only excellent moral qualities but also the trained intelligence and cultured mind of the well educated woman; and

Whereas, The principle of registration by the state is now generally conceded as safeguarding the public health and as promoting a more thorough education of nurses; now, therefore, be it

Resolved, That every person assuming the position of a trained nurse should give proof of the following minimum preparation for such work:

(a) A good general education.

(b) A preliminary course in domestic science, elementary anatomy, physiology, bacteriology, materia medica, and technical preparation for ward work.

(c) Three complete years of practical work in hospital wards under qualified instructors.

And be it further

Resolved, That this minimum preparation should be examined and registered by the state; and, lastly, be it

Resolved, That it is the duty of the training schools to certify to the qualities of character and moral fitness of candidates for registration."

The inspection of training schools for nurses in California is being done as rapidly as possible and it is hoped that within a short time a complete list of accredited schools will be on file with this Bureau.

REPORT OF THE BUREAU OF THE HYGIENIC LABORATORY FOR MAY, 1914.

WILBUR A. SAWYER, M.D., Director.

J. C. GEIGER, M.D., Chief Bacteriologist.

The Typhoid Fever Epidemic at Hanford.

The investigation of the Hanford typhoid fever epidemic, carried on in the field and in the laboratory, has been completed. The infection was traced to a public dinner and supper held on March 17th. Between March 20th and the middle of April ninety-three persons came down. In eighty-four cases clinical or laboratory examinations left no doubt as to the diagnosis. In the remaining nine cases the disease was probably typhoid fever, but specimens of blood were not obtained late enough in the disease to definitely establish the diagnosis.

The infection of this large number of persons was explained, after prolonged investigation, by the discovery of a typhoid carrier among those who prepared and served food at the dinner. Early in the investigation it was possible to exclude the sources of infection usual in epidemics of typhoid fever. The principal water supply of Hanford comes from deep wells, and was shown by bacteriological examination to be safe. The milk supply was found not to have been a factor.

The danger from typhoid carriers is illustrated by this outbreak. The establishment of safe water supplies, proper sewerage, and effective isolation of the sick will diminish rapidly the total amount of typhoid fever, and as a result fewer carriers will be formed. Until a generation has passed after these precautions have become general, carriers already existing will continue to be innocently responsible for mysterious isolated outbreaks.

The studies of others have shown that 2 or 3 per cent of cases of typhoid fever become chronic carriers. On this basis it is estimated that over 100 chronic typhoid carriers are formed in California every year as the result of our neglect, individually and as communities, to prevent this disease. Every person who contracts the disease submits those near him, during his illness, to the danger of infection, and also runs the risk of becoming a chronic carrier. In one way or another he is apt to furnish an essential link in a long series of infections which might have been interrupted.

The danger from typhoid carriers can be greatly diminished in two ways. The individual can protect himself by antityphoid vaccination. The community can protect its citizens by investigating every case of typhoid fever in order that its source can be found and can be controlled. If the carrier responsible for the Hanford epidemic had been

discovered several years ago, when unexplained cases of typhoid fever developed among those who ate food prepared by her, the epidemic would have been prevented. The prevention of outbreaks due to typhoid carriers can scarcely be expected until communities employ, on a full time basis, experts in preventive medicine and hold them responsible for the prevention of disease. Carriers are seldom discovered by untrained men with insufficient laboratory facilities. Until the typhoid problem is properly taken care of, it will be necessary strongly to advocate antityphoid vaccination. This is why the State Board of Health is furnishing free antityphoid vaccine to physicians.

Division of Biological Examinations.

*Summary of Examinations Made in the California State Hygienic Laboratory
During the Month of May, 1914.*

Condition suspected	Positive	Negative	Inconclusive	Total
Main Laboratory at Berkeley:				
Anthrax -----		2		2
Diphtheria -----	15	17	2	34
Gonococcus infection -----	2	3	1	6
Malaria -----		2	1	3
Rabies -----	7	18	1	26
Syphilis (Wassermann test) -----	8	19	11	38
Tuberculosis -----	5	14		19
Typhoid (Widal tests) -----	6	13		19
Typhoid (blood cultures) -----		2		2
Water pollution -----	12	19		31
Miscellaneous -----	3	6		9
				189
Northern Branch at Sacramento:				
Diphtheria -----	10	24	1	35
Malaria -----		2	1	3
Tuberculosis -----	2	20		22
Typhoid (Widal tests) -----	9	16	3	28
				88
San Joaquin Valley Branch at Fresno:				
Diphtheria -----		5		5
Hookworm -----		2		2
Tuberculosis -----		5		5
Typhoid (Widal tests) -----		2		2
Miscellaneous -----		1		1
				15
Southern Branch at Los Angeles:				
Diphtheria -----	17	21		38
Tuberculosis -----		3		3
Typhoid (Widal tests) -----	4	8	3	15
				56
Total number of examinations -----				348

Division of Preventive Therapeutics.*Pasteur Treatment for the Prevention of Rabies by the State Hygienic Laboratory
During the Month of May, 1914.*

	Treatment commenced	Treatment completed
Main Laboratory at Berkeley.....	7	5
Northern Branch at Sacramento.....	0	0
San Joaquin Valley Branch at Fresno.....	0	1
Southern Branch at Los Angeles.....	0	0
Laboratory of Sacramento Board of Health, by deputized bacteriologist	0	2
Laboratory of San Francisco Board of Health, by deputized bacteriologist	3	6
Laboratory of Los Angeles Board of Health, by deputized bacteriologist	0	0
Laboratory of San Diego City Board of Health, by deputized bacteriologist	1	2
Laboratory of Letterman General Hospital, Presidio, by deputized bacteriologist	0	0
Laboratory of United States Naval Hospital, Mare Island, by deputized bacteriologist.....	0	0
	11	16

*Vaccine for the Prevention of Typhoid Fever Issued by the State Hygienic Labora-
tory during the Month of May, 1914.*

Number of physicians to whom vaccine was sent..... 43
 Number of treatments sent..... 383

Public Health Instruction.*Participation in Instruction in Public Health During May, 1914.*

Main Laboratory at Berkeley:
 Bacteriological instruction outfits sent out..... 0
 Bacteriological instruction outfits in use..... 27
 Lectures or talks by the Director..... 0
 Lectures or talks by the Chief Bacteriologist..... 1

Division of Epidemiological Investigations.*Epidemiological Investigations During May, 1914.*

Main Laboratory at Berkeley:
 Special investigations by the Director..... 2
 Investigation into the incomplete sterilization of certain dishes by
 baking.
 Investigation of milk sauces as culture media.
 Special investigations by the Chief Bacteriologist..... 4
 Completion of an investigation, in cooperation with the State Food and
 Drug Laboratory, of cheese responsible for food poisoning.
 Continuation of an investigation into the bacterial contents of tomato
 products.
 Completion of an investigation of the effect of quinine on rabies in
 dogs.
 A study on rabies in California during the year ending March 31, 1914,
 and the collection of statistics for that period.

REPORT OF THE BUREAU OF FOODS AND DRUGS FOR MAY, 1914.

M. E. JAFFA, Director.

During the month of May, ninety-nine samples of foods and drugs were received at the State Laboratory. Seventy of these were official samples submitted by inspectors, and twenty-nine were unofficial samples submitted by state institutions.

The official samples include eleven samples of chopped meat, thirty-four drugs, four samples of canned peas and a number of miscellaneous foods. Ten of the chopped meat samples contained sulphur dioxide, the use of which preservative in chopped meat has been illegal in this State for several years.

Several of the drugs were found to be below the U. S. Pharmacopeia standard, and were therefore illegal. These include sweet spirits of nitre, spirits of camphor and lime water. Some of the other drugs were mislabeled in that the label did not contain the names of certain drugs which should have been declared in accordance with Food Inspection Decision 112.

Three of the samples of canned peas contained copper sulfate. These samples were illegal because the use of copper salts in the greening of foods has been prohibited since May 1, 1913.

The following extracts from the Service and Regulatory Announcement of the Department of Agriculture, issued March, 1914, are of interest to the readers of this bulletin and others interested in the manufacture and sale of food and drugs:

THE SALE OF EGGS PRESERVED IN WATER GLASS.

The bureau receives numerous inquiries regarding the propriety of selling eggs which have been preserved in water glass. The position of the bureau is indicated in the letter quoted below:

DEAR SIR: The bureau sees no objection to the sale of eggs preserved in water glass, provided they are labeled in such a manner as to indicate that they are not strictly fresh eggs, but are preserved.

Respectfully,

C. L. ALSBERG, Chief.

MISUSE OF THE TERM "EGG POWDER."

DEAR SIR: Receipt is acknowledged of your letter of March 3, 1914, in which you request certain information concerning the application of the Food and Drugs Act to an egg powder composed of the following ingredients: Sodium bicarbonate, tartaric acid, cream of tartar, turmeric, ground rice.

Referring to your inquiry as to whether or not a product prepared by the above formula may be guaranteed under the Food and Drugs Act, you are informed that a guaranty is in no sense a guaranty by the Government, and the appearance of a guaranty legend upon a food product does not in any way indicate that the Government has approved of the character of the product.

Concerning the labeling of the above product as an egg powder, you are informed that the label "egg powder" should not appear upon a product which contains no eggs. Furthermore, a product which is labeled to indicate that it will take the place of eggs should possess the properties of eggs, both in respect to food value and baking qualities.

The above product does not possess these qualities and would not be properly labeled as an egg powder or an egg substitute. It is, in fact, a baking powder and should be so labeled.

THE LABELING OF COGNAC TYPE OF BRANDY.

DEAR SIR: In the opinion of the bureau, the designation "cognac type of brandy," or "brandy, cognac type," would be permissible for a brandy made in California, provided the product is made in accordance with the process of manufacture used in France in the manufacture of cognac brandy and is of the same general flavor and character, and provided further, that the name of the state of production is stated on the label, as required by Regulation 19c of the Rules and Regulations for the Enforcement of the Food and Drugs Act.

WARNING TO USERS OF TURPENTINE FOR MEDICINAL OR VETERINARY PURPOSES.

As the result of an investigation by the Department of Agriculture, it has been found that the adulteration of turpentine with mineral oils is so widespread that druggists and manufacturers of pharmaceutical products and grocers' sundries used for medicinal and veterinary purposes should exercise special caution in purchasing turpentine. Those who use turpentine for this purpose, unless they are careful, run the risk of obtaining an adulterated article and unnecessarily laying themselves open to prosecution under the Food and Drugs Act.

It has been found, moreover, that turpentine sold to the country stores especially, as usually put out by dealers and manufacturers of grocers' sundries, is often short in volume by as much as 5 or 10 per cent. Dealers, therefore, should also protect themselves through a guaranty from the wholesaler that the bottle contains the full declared volume.

In all cases, druggists, manufacturers, and wholesale grocers should satisfy themselves that the turpentine is free from adulteration and is true to marked volume.

THE USE OF TARTARIC ACID IN THE PREPARATION OF JELLY.

It is the opinion of the bureau that there is no objection to the use of tartaric acid in the preparation of jelly, provided it is not used to conceal inferiority and its presence is declared upon the label. It is not sufficient, in the opinion of the bureau, to place the statement upon the label that the product contains added fruit acid, but the presence of the added tartaric acid should be plainly declared upon the label in type not smaller than 8-point (brevier) caps.

Your attention is called to the fact in this connection, however, that commercial tartaric acid sometimes contains lead, which is an impurity introduced into it in the course of manufacture. Lead is of course an injurious substance, and the use of an acid containing lead in a food product would not be proper.

THE USE OF THE TERMS "LEMON CLING" AND "YELLOW CLING" ON CANNED PEACHES.

Replying to your request for information regarding the use of the terms "Lemon Cling" and "Yellow Cling" on canned peaches, you are informed that a declaration of the varietal name is not required upon the label. Where such a name is given, however, it must be the true name of the variety.

The Lemon Cling is a well-known variety of peach which is somewhat widely grown in California, and is highly esteemed for canning. If the peaches in question, which are labeled "Lemon Cling," are not of that variety, it would be obviously improper to so label them. Should the words "Yellow Cling" be substituted on the label for "Lemon Cling," the product would be understood to belong to any one of the yellow clingstone varieties. We are informed that practically all of the peaches which are commercially canned in California are yellow-fleshed clings.

The following Food Inspection Decisions have been received at the Laboratory since the publication of the last monthly bulletin:

Food Inspection Decision No. 153.

Amendment to regulation 9, relating to guaranties by wholesalers, jobbers, manufacturers, and other parties residing in the United States to protect dealers from prosecution.

Regulation 9 of the Rules and Regulations for the enforcement of the Food and Drugs Act, June 30, 1906 (34 Stat., 768), is hereby amended, effective May 1, 1915, so as to read as follows:

REGULATION 9. GUARANTY.

(Section 9.)

(a) It having been determined that the legends "Guaranteed under the Food and Drugs Act, June 30, 1906," and "Guaranteed by (name of guarantor), under the Food and Drugs Act, June 30, 1906," borne on the labels or packages of food and drugs, accompanied by serial numbers given by the Secretary of Agriculture, are each misleading and deceptive, in that the public is induced by such legends and serial numbers to believe that the articles to which they relate have been examined and approved by the Government and that the Government guarantees that they comply with the law, the use of either legend, or any similar legend, on labels of packages should be discontinued. Inasmuch as the acceptance by the Secretary of Agriculture for filing of the guaranties of manufacturers and dealers and the giving by him of serial numbers thereto contribute to the deceptive character of legends on labels and packages, no guaranty in any form shall hereafter be filed with and no serial number shall hereafter be given to any guaranty by the Secretary of Agriculture. All guaranties now on file with the Secretary of Agriculture shall be stricken from the files, and the serial numbers assigned to such guaranties shall be cancelled.

(b) The use on the label or package of any food or drug of any serial number required to be cancelled by paragraph (a) of this regulation is prohibited.

(c) Any wholesaler, manufacturer, jobber, or other party residing in the United States may furnish to any dealer to whom he sells any article of food or drug a guaranty that such article is not adulterated or misbranded within the meaning of the Food and Drugs Act, June 30, 1906, as amended.

(d) Each guaranty to afford protection shall be signed by, and shall contain the name and address of, the wholesaler, manufacturer, jobber, dealer, or other party residing in the United States making the sale of the article or articles covered by it to the dealer, and shall be to the effect that such article or articles are not adulterated or misbranded within the meaning of the Federal Food and Drugs Act.

(e) Each guaranty in respect to any article or articles should be incorporated in or attached to the bill of sale, invoice, bill of lading, or other schedule, giving the names and quantities of the article or articles sold, and should not appear on the labels or packages.

(f) No dealer in food or drug products will be liable to prosecution if he can establish that the articles were sold under a guaranty given in compliance with this regulation.

Food Inspection Decision No. 154.

Regulation of marking the quantity of food in package form.

Under section 3 of the Food and Drugs Act of June 30, 1906 (34 United States Statutes at Large, pages 768 to 772), as amended by the Act of March 3, 1913, entitled "An Act to amend section eight of an Act entitled 'An Act for preventing the manufacture, sale, or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines, and liquors, and for regulating traffic therein, and for other purposes,' approved June thirtieth, nineteen hundred and six" (37 United States Statutes at Large, page 732), Regulation 29 of the Rules and Regulations for the Enforcement of the Food and Drugs Act is hereby amended so as to read as follows:

STATEMENT OF WEIGHT, MEASURE, OR COUNT.

(Section 8, paragraph 3, under "Food," as amended by act of March 3, 1913.)

(a) Except as otherwise provided by this regulation, the quantity of the contents, in all cases of food, if in package form, must be plainly and conspicuously marked, in terms of weight, measure, or numerical count, on the outside of the covering or container usually delivered to consumers.

(b) The quantity of the contents so marked shall be the amount of food in the package.

(c) The statement of the quantity of the contents shall be plain and conspicuous, shall not be a part of or obscured by any legend or design, and shall be so placed and in such characters as to be readily seen and clearly legible when the size of the package and the circumstances under which it is ordinarily examined by purchasers or consumers are taken into consideration.

(d) If the quantity of the contents be stated by weight or measure, it shall be marked in terms of the largest unit contained in the package; for example, if the package contain a pound, or pounds, and a fraction of a pound, the contents shall be expressed in terms of pounds and fractions thereof; or of pounds and ounces, and not merely in ounces.

(e) Statements of weight shall be in terms of avoirdupois pounds and ounces; statements of liquid measure shall be in terms of the United States gallon of 231 cubic inches and its customary subdivisions, i. e., in gallons, quarts, pints, or fluid ounces, and shall express the volume of the liquid at 68° F. (20° C.); and statements of dry measure shall be in terms of the United States standard bushel of 2,150.42 cubic inches and its customary subdivisions, i. e., in bushels, half bushels, pecks, quarts, pints, or half pints: *Provided*, That, by like method, such statements may be in terms of metric weight or measure.

(f) The quantity of solids shall be stated in terms of weight and of liquids in terms of measure, except that in case of an article in respect to which there exists a definite trade custom otherwise, the statement may be in terms of weight or measure in accordance with such custom. The quantity of viscous or semi-solid foods, or of mixtures of solids and liquids, may be stated either by weight or measure, but the statement shall be definite and shall indicate whether the quantity is expressed in terms of weight or measure, as, for example, "Weight 12 oz.," or "12 oz. avoirdupois"; "Volume 12 ounces," or "12 fluid ounces."

(g) The quantity of the contents shall be stated in terms of weight or measure unless the package be marked by numerical count and such numerical count gives accurate information as to the quantity of the food in the package.

(h) The quantity of the contents may be stated in terms of minimum weight, minimum measure, or minimum count; for example, "minimum weight 16 oz.," "minimum volume 1 gallon," or "not less than 4 oz.," but in such case the statement must approximate the actual quantity and there shall be no tolerance below the stated minimum.

(i) The following tolerances and variations from the quantity of the contents marked on the package shall be allowed:

(1) Discrepancies due exclusively to errors in weighing, measuring, or counting which occur in packing conducted in compliance with good commercial practice.

(2) Discrepancies due exclusively to differences in the capacity of bottles and similar containers resulting solely from unavoidable difficulties in manufacturing such bottles or containers so as to be of uniform capacity; *Provided*, That no greater tolerance shall be allowed in case of bottles or similar containers which, because of their design, can not be made of approximate uniform capacity than is allowed in case of bottles or similar containers which can be manufactured so as to be of approximate uniform capacity.

(3) Discrepancies in weight or measure, due exclusively to differences in atmospheric conditions in various places, and which unavoidably result from the ordinary and customary exposure of the packages to evaporation or to the absorption of water.

Discrepancies under classes (1) and (2) of this paragraph shall be as often above as below the marked quantity. The reasonableness of discrepancies under class (3) of this paragraph will be determined on the facts in each case.

(j) A package containing two avoirdupois ounces of food or less is "small" and shall be exempt from marking in terms of weight.

(k) A package containing one fluid ounce of food or less is "small" and shall be exempt from marking in terms of measure.

(l) When a package is not required by paragraph (g) to be marked in terms of either weight or measure, and the units of food therein are six or less, it shall, for the purpose of this regulation, be deemed "small" and shall be exempt from marking in terms of numerical count.

The following Notices of Judgments are listed and copies may be had from the Superintendent of Documents, Government Printing Office, Washington, D. C.:

No. 2880. Adulteration and misbranding of sorghum.

Commercial glucose substituted.

No. 2881. Adulteration and alleged misbranding of peppermint essence.

Deficient in oil of peppermint and artificially colored with a green dye.

Nos. 2882, 2883 and 2905. Adulteration and misbranding of mincemeat.

A food product containing but a trace of meat was substituted.

Nos. 2884, 2890. Adulteration and misbranding of olive oil.

Cottonseed oil was substituted in part for olive oil.

Nos. 2885, 2950. Adulteration and misbranding of syrup.

Statement "Bludwine Syrup" false and misleading, because it did not contain wine. Short measure.

Nos. 2886, 2906. Adulteration and misbranding of tomato catsup.

Catsup consisted of a decomposed vegetable substance. Pumpkin and apple artificially colored with coal-tar dye substituted for tomato.

Nos. 2887, 2938, 2956. Adulteration and misbranding of evaporated and condensed milk.

Article not sufficiently reduced to be entitled to the name "Evaporated Milk." Cane sugar had been substituted for the article. Fat was abstracted from the article.

Nos. 2888, 2891, 2907, 2920, 2921, 2960. Adulteration and misbranding of vanilla extract.

Dilute flavor of vanilla artificially colored with caramel, vanillin and coumarin, were substituted.

Nos. 2889, 2919. Adulteration and misbranding of so-called apple cider and boiled cider.

A compound alcoholic beverage prepared from apple juice, starch sugar, saccharin, and benzoate of soda had been substituted.

No. 2892. Adulteration of dessicated eggs.

Article consisted in part of a filthy, decomposed, and putrid animal substance.

No. 2893. Misbranding of Rosolio di China.

Proportion of alcohol content was not stated on the label.

No. 2894. Adulteration and misbranding of ammonium salicylate compound tablets.

Article was below standard.

Nos. 2895, 2901. Adulteration of frozen egg product.

Products consisted in part of a filthy, decomposed, and putrid animal and vegetable substance.

No. 2896. Adulteration of apple jelly.

Product consisted wholly or in part of old, filthy, and decomposed souring and fermenting vegetable substances.

Nos. 2897, 2958. Misbranding of rice.

Product consisted of gleanings of rice, or broken rice, coated with glucose and mineral matter of the nature of talc.

Nos. 2898, 2932. Adulteration and misbranding of ginger cordial.

Capsicum had been substituted for ginger.

- No. 2899. Adulteration and misbranding of extract of peppermint.
A dilute solution of alcohol containing only a trace, if any, of oil of peppermint, was substituted.
- No. 2900. Adulteration and misbranding of oil of lavender flowers.
Esters of glycerin were substituted for oil of lavender.
- Nos. 2902, 2971, 2977. Misbranding of wines.
Article was product of United States and not port wine. Article consisted of a mixture of pomace and other wines and contained practically no Scuppernong wine.
- No. 2903. Adulteration and misbranding of turpentine.
Product was mixture of turpentine and mineral oil.
- Nos. 2904, 2926. Adulteration and misbranding of maple syrup.
Statements on label false and misleading; product was not maple syrup. Water had been substituted.
- No. 2908. Misbranding of coffee.
Labeled Moca coffee, but consisted almost entirely of Santos coffee.
- No. 2909. Misbranding of pears.
Cases contained pears of an inferior quality and not choice pears, as stated in the label.
- No. 2910. Misbranding of Allasch style kummel.
Article was a domestic article and not a foreign article.
- No. 2911. Misbranding of grape brandy.
Product was compound of grape brandy and grain spirits.
- No. 2923. Adulteration and misbranding of cognac.
An imitation brandy was substituted for genuine article.
- Nos. 2930, 2936. Adulteration and misbranding of cordials and brandies.
Neutral spirits and other materials were substituted for genuine articles.
- Nos. 2912, 2963. Misbranding of Bitters.
Quantity of alcohol was not stated on label. Product was of the United States and not of Italy as label would indicate.
- No. 2913. Misbranding of Vodka.
Product was made, manufactured, and prepared in the United States and not in Russia.
- Nos. 2914, 2937. Misbranding of gins.
Articles were not foreign products, but were made in United States. Artificially colored with coal tar dye.
- No. 2915. Adulteration of baking powder.
Article contained added poisonous ingredient, arsenic.
- No. 2916. Misbranding of potato chips.
Articles were not peptonized as label would indicate.
- No. 2917. Misbranding of canned peas.
Peas were not green peas, but soaked peas.
- Nos. 2918, 2948, 2974, 2983. Adulteration and misbranding of vermouth.
Water, alcohol, and herbs had been substituted.
- No. 2922. Adulteration and misbranding of jam.
A jam composed of damson fruit, granulated sugar, glucose, and apple juice, had been substituted for damson jam.
- Nos. 2924, 2929. Adulteration and misbranding of cocoanut.
Glucose had been substituted.
- Nos. 2925, 2931. Adulteration and misbranding of beer.
Grains other than malt and hops had been substituted for said malt.
- No. 2927. Adulteration of jellies.
Articles contained added poisonous and other added deleterious ingredients which would render the articles injurious to health.
- No. 2928. Adulteration of jelly red color.
Article contained arsenic.
- No. 2933. Misbranding of stock feed.
Product did not contain 10.50 per cent of protein as shown on the label.
- No. 2934. Adulteration of horse beans.
Beans consisted of filthy, decomposed, and putrid vegetable and animal substances, particularly the excreta of weevils.
- No. 2935. Adulteration of cream tartar.
Product contained lead.
- No. 2939. Adulteration of leavener.
Product contained arsenic.
- Nos. 2940, 2954. Misbranding of cottonseed meal.
Product contained smaller amounts of ingredients than were stated on labels.
- Nos. 2941, 2942. Adulteration of milk.
Water was substituted for milk.
- No. 2943. Adulteration of oil of juniper berries.
Specific gravity was below the standard required by the United States Pharmacopeia.

- No. 2944. Adulteration of chocolate cremolin.
Mineral substance containing arsenic had been mixed and packed with product.
- No. 2945. Adulteration and misbranding of lekvar.
Glucose was substituted for article.
- No. 2946. Adulteration of candy.
Product contained arsenic.
- No. 2947. Misbranding of anesone triduo.
Article was product of United States and not of Italy. Content of alcohol was not declared on the label.
- No. 2949. Adulteration and misbranding of "liquid smoke."
Product contained wood alcohol. Product was not liquid smoke, but was in fact a solution of crude pyroligneous acid.
- No. 2951. Misbranding of chewing gum.
Label conveyed the impression that the product contained pepsin, whereas, in truth and in fact, it contained no pepsin.
- No. 2952. Misbranding of liqueur and cordial sirup.
Products were of the United States and not foreign products.
- No. 2953. Adulteration of oil of red thyme.
Product contained turpentine, was deficient in thymol and high in rotation, and its own standard of strength, quality, and purity was not stated upon the bottle.
- No. 2955. Misbranding of Elixir Tripoli.
Article was product of the United States and not of Tripoli.
- No. 2957. Adulteration and misbranding of mace.
Article consisted in whole or in part of Bombay or false mace.
- No. 2959. Alleged misbranding of macaroni.
Label was false and misleading in that it would lead a purchaser to believe that said food was of foreign origin, whereas, in truth and in fact, it was not of foreign origin.
- No. 2961. Adulteration of canned apples.
Gasoline and other petroleum product was mixed with article.
- No. 2962. Adulteration and misbranding of mineral water.
Product consisted in part of filthy, decomposed, and putrid animal substances.
- Nos. 2964, 2973, 2985. Adulteration and misbranding of vinegars.
Dilute acetic acid, distilled vinegar, and mineral water were substituted.
- No. 2965. Misbranding of peanut butter.
Product contained short weight.
- No. 2966. Adulteration and misbranding of grape juice.
Water and sugar had been substituted for genuine article.
- Nos. 2967, 2968. Adulteration of oysters.
Products consisted in part of filthy and decomposed animal matter, and consisted in part of a portion of an animal unfit for food.
- No. 2969. Adulteration of salmon.
Product consisted in part of a filthy, decomposed, and putrid animal substance.
- No. 2970. Adulteration of gelatine.
Product contained 15 parts per million of arsenic trioxid.
- No. 2972. Adulteration and misbranding of cough candy.
Product did not contain wild cherry as labeled.
- No. 2975. Adulteration of tomato pulp.
Product consisted of a certain decomposed vegetable substance, to wit, decomposed pieces and trimmings of tomatoes.
- No. 2976. Adulteration and misbranding of spirits of niter.
Strength of product fell below the professed standard.
- No. 2978. Misbranding of tomatoes.
Articles were grown and packed in the State of Maryland and not in the State of New York as labeled.
- No. 2979. Adulteration and misbranding of headache powders.
Strength of product fell below the professed standard.
- No. 2980. Adulteration and misbranding of cocoa.
A mineral substance had been substituted in part for cocoa.
- No. 2981. Misbranding of cheese.
Weights of the cheeses were not plainly and correctly stated on the outside of the boxes.
- No. 2982. Adulteration of gum orange shellac.
Product contained arsenic.
- No. 2984. Adulteration and misbranding of tomato paste.
Product consisted wholly or in part of filthy, putrid, and decomposed vegetable substance.

REPORT OF BUREAU OF VITAL STATISTICS.

GEORGE D. LESLIE, Director.

L. V. BOYLE, Births, Deaths, Marriages.

G. P. JONES, Morbidity Returns.

Births, Deaths and Marriages for April.*

State Totals and Annual Rates.—The following table shows for California as a whole the birth, death and marriage totals for the current and preceding months in comparison with those for the corresponding months of last year, as well as the annual rates per 1,000 population represented by the totals for the current and preceding months. The rates are based on an estimated midyear population of 2,763,109 for California in 1914, the estimate having been made by the Census Bureau method with slight modifications.

Birth, Death and Marriage Totals, with Annual Rates per 1,000 Population, for Current and Preceding Months, for California: April.

Month	Monthly total		Annual rate per 1,000 population: 1914
	1914	1913	
April—			
Births -----	3,753	3,484	16.5
Deaths -----	3,134	3,235	13.8
Marriages -----	2,575	2,446	11.3
March—			
Births -----	3,772	3,488	16.1
Deaths -----	3,298	3,330	14.1
Marriages -----	2,195	2,167	9.3

The April total was much greater in 1914 than in 1913 for births and was likewise somewhat greater this year than last for marriages, though the monthly death total, on the other hand, was somewhat less this year than last year.

Moreover, the birth registration exceeded the death total for April by 619, or 19.8 per cent.

As to deaths, it may be noted that of the 3,134 decedents in April, 169, or 5.4 per cent, had resided in California less than one year.

County Totals.—The first table which follows below shows the monthly birth, death and marriage totals for the principal counties of the State, the list being limited to counties having a population of at least 25,000 according to the Federal Census of 1910. Totals are also shown for San Francisco and the other bay counties (Alameda, Contra Costa, Marin and San Mateo), as well as for Los Angeles and Orange counties together.

City Totals.—The second of the following tables gives the birth and death totals for the principal freeholders' charter cities, the list including all chartered cities with a census population of at least 15,000 in 1910. Totals are given likewise for San Francisco in comparison with Oakland, Alameda and Berkeley, the three cities adjoining one another on the east shore of San Francisco Bay, as well as for Los Angeles in comparison with neighboring chartered cities (Long Beach, Pasadena, Pomona, and Santa Monica).

*NOTE.—The present report is for the month preceding, but one. This order must be followed hereafter because of the publication of the Bulletin during the early part of the month, before the tabulation of records for the preceding month is completed.

Birth, Death and Marriage Totals, for Principal Counties: April.

County	April, 1914		
	Births	Deaths	Marriages
California -----	3,753	3,134	2,575
Counties of more than 25,000 population (1910):			
Alameda -----	383	280	225
Butte -----	37	28	12
Contra Costa -----	55	36	27
Fresno -----	173	73	92
Humboldt -----	26	24	23
Kern -----	50	44	47
Los Angeles -----	963	767	558
Marin -----	8	17	50
Orange -----	36	46	121
Riverside -----	47	41	34
Sacramento -----	129	88	81
San Bernardino -----	89	110	63
San Diego -----	150	110	91
San Francisco -----	670	608	504
San Joaquin -----	78	96	59
San Mateo -----	43	23	33
Santa Barbara -----	32	46	31
Santa Clara -----	107	113	105
Santa Cruz -----	58	37	21
Solano -----	31	40	27
Sonoma -----	48	49	43
Tulare -----	62	27	32
Selected groups:			
San Francisco and other bay counties -----	1,159	964	839
Los Angeles and Orange counties -----	999	813	679

Birth and Death Totals, for Principal Cities: April.

City	April, 1914	
	Births	Deaths
Freeholders' charter cities -----	2,357	1,904
Cities of more than 15,000 population (1910):		
Alameda -----	25	22
Berkeley -----	64	45
Fresno -----	59	27
Long Beach -----	32	33
Los Angeles -----	683	470
Oakland -----	259	165
Pasadena -----	40	45
Riverside -----	29	21
Sacramento -----	106	77
San Diego -----	106	76
San Francisco -----	670	608
San Jose -----	44	34
Stockton -----	25	40
Selected groups:		
San Francisco -----	670	608
Oakland, Alameda and Berkeley -----	348	232
Totals, bay cities -----	1,018	840
Los Angeles -----	683	470
Neighboring cities -----	99	113
Totals -----	782	583

Causes of Death.—The following table shows the classification of deaths in California for the current month, in comparison with the preceding month:

Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths, for Current and Preceding Month, for California: April.

Cause of death	Deaths: April	Proportion per 1,000	
		April	March
All causes -----	3,134	1,000.0	1,000.0
Typhoid fever -----	36	11.5	7.6
Malarial fever -----	5	1.6	0.9
Measles -----	18	5.8	1.8
Scarlet fever -----	11	3.5	1.8
Whooping-cough -----	38	12.1	9.4
Diphtheria and croup -----	12	3.8	5.5
Influenza -----	19	6.1	4.5
Other epidemic diseases -----	7	2.2	2.1
Tuberculosis of lungs -----	420	134.0	133.4
Tuberculosis of other organs -----	69	22.0	26.4
Cancer -----	236	75.3	71.9
Other general diseases -----	132	42.1	40.6
Meningitis -----	20	6.4	12.1
Other diseases of nervous system -----	295	94.1	81.3
Diseases of circulatory system -----	531	169.4	175.9
Pneumonia and broncho-pneumonia -----	225	71.8	79.7
Other diseases of respiratory system -----	50	16.0	21.2
Diarrhea and enteritis, under 2 years -----	64	20.4	14.3
Diarrhea and enteritis, 2 years and over -----	30	9.6	6.7
Other diseases of digestive system -----	141	45.0	46.7
Bright's disease and nephritis -----	217	69.2	68.5
Childbirth -----	39	12.5	9.7
Diseases of early infancy -----	105	33.5	35.2
Suicide -----	78	24.9	27.3
Other violence -----	221	70.5	73.7
All other causes -----	115	36.7	41.8

In April there were 531 deaths, or 16.9 per cent of all, from diseases of the circulatory system and 489, or 15.6 per cent, from various forms of tuberculosis, heart disease thus leading tuberculosis greatly.

Other notable causes of death in April were: Diseases of the nervous system, 315; violence, 299; diseases of respiratory system, 275; cancer, 236; diseases of digestive system, 235; Bright's disease and nephritis, 217, and epidemic diseases, 146.

The deaths from epidemic diseases were as follows: Whooping-cough, 38; typhoid fever, 36; influenza, 19; measles, 18; diphtheria and croup, 12; scarlet fever, 11, and all other epidemic diseases, 12.

The deaths from the three leading epidemic diseases reported for the month were distributed by counties as follows:

Whooping-cough		Typhoid fever		Influenza	
Alameda	7	Alameda	4	Alameda	1
Fresno	1	Contra Costa	1	Butte	1
Kern	1	Fresno	1	Colusa	1
Los Angeles	4	Kern	1	El Dorado	1
Monterey	3	Kings	1	Fresno	1
Nevada	1	Los Angeles	6	Los Angeles	3
Orange	1	Orange	1	Mendocino	1
San Benito	1	Sacramento	3	Orange	2
San Francisco	11	San Benito	1	Sacramento	1
San Mateo	3	San Bernardino	4	San Diego	2
Santa Barbara	1	San Diego	1	San Francisco	2
Santa Clara	2	San Francisco	8	San Joaquin	1
Stanislaus	1	San Joaquin	2	Santa Barbara	1
Tulare	1	San Mateo	1	Santa Clara	1
		Santa Clara	1		
Total	38	Total	36	Total	19

Geographic Divisions.—The following table presents data for geographic divisions, including the metropolitan area, or San Francisco and the other bay counties (Alameda, Contra Costa, Marin, and San Mateo), in comparison with the rural counties of Northern and Central California:

Deaths from Main Classes of Diseases, for Geographic Divisions: April.

Geographic division	Deaths: April										
	All causes	Epidemic diseases	Tuberculosis (all forms)	Cancer	Diseases of nervous system	Diseases of circulatory system	Diseases of respiratory system	Diseases of digestive system	Bright's disease and nephritis	Violence	All other causes
THE STATE	3,134	146	489	236	315	531	275	235	217	299	391
Northern California	305	9	46	16	37	53	37	20	22	25	40
Coast counties	149	1	16	10	25	31	18	8	15	7	18
Interior counties	156	8	30	6	12	22	19	12	7	18	22
Central California	1,660	88	234	143	157	293	158	116	115	173	183
San Francisco	608	28	95	66	43	115	62	38	44	52	65
Other bay counties	356	23	36	33	37	69	35	18	22	36	47
Coast counties	201	10	28	13	32	45	13	14	14	14	18
Interior counties	495	27	75	31	45	64	48	46	35	71	53
Southern California	1,169	49	209	77	121	185	80	99	80	101	268
Los Angeles	767	25	136	50	75	128	61	55	61	63	113
Other counties	402	24	73	27	46	57	19	44	19	38	55
Northern and Central California	1,965	97	280	159	194	346	195	136	137	198	223
Metropolitan area	964	51	131	99	80	184	97	56	66	88	112
Rural counties	1,001	46	149	60	114	162	98	80	71	110	111

Sex, Race and Nativity.—The proportion of the sexes among the 3,134 decedents in April was: Male, 1,890, or 60.3 per cent, and female, 1,244, or 39.7 per cent.

The race distribution of decedents was as follows: White, 2,981, or 95.1 per cent of all; Chinese, 46; Negro, 45; Japanese, 43, and Indian, 19.

The 2,981 white decedents were classified by nativity as follows: California, 795, or 26.7 per cent; other states, 1,175, or 39.4 per cent; foreign countries, 943, or 31.6 per cent, and unknown, 68, or 2.3 per cent.

Sex and Age Periods.—The following table shows the age distribution, by numbers and per cents of deaths, classified by sex:

Deaths Classified by Sex and Age Periods, with Per Cents by Age Periods, for California: April.

Age period	Deaths			Per cent		
	Total	Male	Female	Total	Male	Female
All ages -----	3,134	1,890	1,244	100.0	100.0	100.0
Under 1 year -----	301	181	120	9.6	9.6	9.6
1 to 4 years -----	142	68	74	4.5	3.6	6.0
5 to 9 years -----	58	34	24	1.8	1.8	1.9
10 to 19 years -----	101	59	42	3.2	3.1	3.4
20 to 29 years -----	268	162	106	8.6	8.6	8.5
30 to 39 years -----	381	245	136	12.2	13.0	10.9
40 to 49 years -----	356	218	138	11.4	11.5	11.1
50 to 59 years -----	370	244	126	11.8	12.9	10.1
60 to 69 years -----	467	292	175	14.9	15.4	14.1
70 years and over -----	690	387	303	22.0	20.5	24.4

This table shows that, generally speaking, relatively more females than males died at the age periods under 20 years as well as at 70 years and over, while relatively more males than females died at the age periods from 20 to 69 years.

Length of Residence.—The table below gives the number and per cent of decedents classified by length of residence in California:

Deaths Classified by Length of Residence in the State, with Per Cents, for California: April.

Length of residence	Deaths	Per cent
Total -----	3,134	100.0
Under 1 year -----	169	5.4
1 to 9 years -----	615	19.6
10 years and over -----	1,238	39.5
Life -----	850	27.1
Unknown -----	262	8.4

It appears from this table that 5.4 per cent of all decedents had resided in California less than one year, and altogether 25.0 per cent had lived in the State under ten years. Residents of ten years' standing comprised 39.5 per cent of all decedents, and native Californians who had been here for life comprised 27.1 per cent, the length of residence being unknown for 8.4 per cent of all decedents.

MORBIDITY REPORTS.

Smallpox.

There were but 50 cases of smallpox reported during May, as against 139 cases reported during April. The cases during May were reported from fifteen counties, and there was no very large outbreak in any one county. Six cases were reported in Orange County, the source of infection being in Tusla, Oklahoma; the mother of the family having contracted the disease in that place about three weeks before coming to California. Five cases were reported from Modoc County where there was an outbreak during April. Ten cases were reported from Stanislaus County where there was also an outbreak during the month of April. Most of the other cases were well scattered throughout the State. Out of the fifty cases reported, thirty-eight had never been vaccinated, and five had been last vaccinated more than several years preceding the attack. Vaccination histories were unobtainable for seven cases.

Typhoid fever.

There was also a great diminution in the number of cases of typhoid fever, but 111 having been reported during the month, as against 234 during April. This is unusual, as there is generally a considerable increase in the number of cases reported during each month from April to October. The epidemic at Hanford, reported during April, however, had considerable to do with the large number of cases reported during that month.

Diphtheria.

One hundred seventy-four cases of diphtheria were reported during May. About the same number had been reported during April. The larger cities of the State reported many cases, but the disease is well scattered over California. The State Board of Health requires that all cases of this disease shall be held in quarantine until two consecutive negative cultures, taken twenty-four hours apart, have been obtained. There are several cases in the State that have been held in quarantine for several months in compliance with these regulations. Efforts are being made to bring about regulations that will not prove so great a hardship to the patient, but which will be equally effective in protecting the public health.

Scarlet Fever.

There was a considerable decrease in the number of cases of scarlet fever, 199 cases having been reported during May, while 276 were reported during April. This disease is also widespread throughout the State.

Pneumonia.

Eighty-four cases of pneumonia were reported, about the same number as for April, when 92 cases were reported.

Malaria.

Sixteen cases of malaria were reported during the month. These cases continue to be reported from the San Joaquin and Sacramento valleys. There are undoubtedly large numbers of these cases that are not reported by physicians. This is probably not through wilful

neglect but rather because of the slow, chronic nature of the disease, and consequent negligence.

Poliomyelitis.

But one case of poliomyelitis was reported during the month. This occurred in Los Angeles. There was a case of a disease which resembled poliomyelitis in Imperial County, but the diagnosis has not been definitely established.

Tuberculosis.

Physicians continue to report cases of tuberculosis, 424 cases having been reported during the month. These cases were not reported from the large cities, alone. Many of the small cities, and rural districts, reported cases. Every effort is being made to stimulate such reports.

Whooping-cough.

Whooping-cough continues to be epidemic throughout the State. Four hundred and twenty-eight cases were reported during May, a slight decrease over April.

Chickenpox.

There were not so many cases of chickenpox reported during May, the number being 331. Five hundred and fourteen were reported during April.

Measles.

In actual numbers, this disease is the most prevalent in the State, according to reports sent to this office. No less than 1,572 cases were reported during May. The disease is epidemic in the larger cities of the State; an outbreak, exceptionally large in numbers, having occurred in Alameda. During April there were 1011 cases reported.

Epidemic Cerebrospinal Meningitis.

Four cases of this disease were reported, 2 occurring in Eureka and 2 in Los Angeles. There were 7 cases reported during April and 14 during March.

Trachoma.

There is an increase in the number of cases of trachoma being reported. There were only 5 reported during April and 3 of those occurred upon Indian reservations. Twelve of the cases reported during May occurred in Los Angeles, 1 in Merced and 1 in San Diego.

Tetanus.

There was but one case of this disease reported during the month. This occurred in Sacramento.

Mumps.

Seventy-nine cases of mumps were reported as against 126 cases during April.

Gonococcus Infection.

Thirty-five cases were reported in May, 51 having been reported during April.

Syphilis.

Twenty-five cases of syphilis were reported this month. Forty-six were reported in April. The State Hygienic Laboratory continues the work of performing Wassermann reactions, free of charge.

Pellagra.

Two cases of pellagra were reported from Los Angeles during May. One case was reported from Tulare County.

Smallpox.

Distribution of Cases Reported During May, 1914.

Counties and cities	Number new cases reported during month	Vaccination history of cases			
		Number vaccinated within seven years preceding attack	Number last vacci- nated more than seven years preceding attack	Number never suc- cessfully vaccinated	Vaccination history not ob- tained or uncertain
Alameda County -----					
Oakland -----	5			4	1
Imperial County -----	2		1	1	
Kings County -----	1			1	
Los Angeles County -----					
Alhambra -----	1				1
Los Angeles -----	3			3	
Venice -----	2			2	
Madera County -----	1				1
Modoc County -----	5		2	3	
Orange County -----	6			6	
Placer County -----					
Auburn -----	1			1	
Sacramento County -----					
Sacramento -----	3		2	1	
San Bernardino County -----					
Ontario -----	1				1
San Francisco -----	2			2	
San Joaquin County -----	3				3
Santa Cruz County -----					
Santa Cruz -----	3			3	
Stanislaus County -----	4			4	
Modesto -----	5			5	
Turlock -----	1			1	
Ventura County -----	1			1	
Totals -----	50		5	38	7

Typhoid Fever.

Distribution of Cases Reported During May, 1914.

Counties and cities	Number of new cases reported during month	Counties and cities	Number of new cases reported during month
Alameda County -----		Sacramento County -----	
Alameda -----	1	Sacramento -----	8
Berkeley -----	1	San Bernardino County -----	5
Oakland -----	2	Colton -----	2
Amador County -----	10	Ontario -----	1
Jackson -----	6	San Diego County -----	
Kern County -----	2	San Diego -----	2
Kings County -----	1	San Francisco -----	16
Los Angeles County -----	4	San Joaquin County -----	
Arcadia -----	1	Lodi -----	1
El Monte -----	1	Stockton -----	1
Long Beach -----	1	San Luis Obispo County -----	
Los Angeles -----	20	Paso Robles -----	1
Whittier -----	1	Santa Clara County -----	
Mendocino County -----		Los Gatos -----	2
Willits -----	3	Siskiyou County -----	1
Merced County -----		Tehama County -----	
Los Banos -----	1	Corning -----	1
Nevada County -----	3	Tulare County -----	1
Grass Valley -----	1	Dinuba -----	1
Orange County -----	2	Yolo County -----	1
Placer County -----	1		
Riverside County -----	5	Total -----	111

Poliomyelitis (Infantile Paralysis).
Distribution of Cases Reported During May, 1914.

Counties and cities	Number of new cases reported
Los Angeles County -----	
Los Angeles -----	1
Total -----	1

Epidemic Cerebrospinal Meningitis.
Distribution of Cases Reported During May, 1914.

Counties and cities	Number of new cases reported
Humboldt County -----	
Eureka -----	2
Los Angeles County -----	
Los Angeles -----	2
Total -----	4

Scarlet Fever, Measles, Diphtheria, and Other Diseases.
Reported During May, 1914.

Disease	Total number of new cases reported during the month in the entire State
Scarlet fever -----	199
Measles -----	1,572
Diphtheria -----	174
Dysentery -----	3
Chickenpox -----	331
Erysipelas -----	28
German measles -----	12
Gonococcus infection -----	35
Malaria -----	16
Mumps -----	79
Pneumonia -----	84
Syphilis -----	25
Tuberculosis -----	424
Whooping-cough -----	428
Tetanus -----	1
Trachoma -----	14

LIST OF COUNTY AND CITY HEALTH OFFICERS.

Alameda County—
 Dr. C. L. McKown-----Niles
 Alameda-----Dr. A. Hieronymus
 Albany-----Dr. F. R. Woolsey
 Berkeley-----Dr. J. J. Benton
 Emeryville-----Dr. A. T. Drennan
 Hayward-----Dr. F. W. Browning
 Livermore-----Dr. H. G. McGill
 Oakland-----Dr. Allen F. Gillihan
 Piedmont-----George T. Burtchaell
 Pleasanton-----Dr. J. Hal Cope
 San Leandro-----Dr. Luther Michael
 Alpine County—
 Mr. Fred S. Dunlap-----Markleeville
 Amador County—
 Dr. E. E. Endicott-----Jackson
 Jackson-----George Hambric
 Sutter Creek-----Dr. J. H. McLaughlin
 Butte County—
 Dr. L. L. Thompson-----Gridley
 Biggs-----Dr. O. C. Hawkins
 Chico-----G. H. Taylor
 Gridley-----Dr. L. L. Thompson
 Oroville-----Dr. W. F. Gates
 Calaveras County—
 Dr. George F. Pache-----Angels Camp
 Angels Camp-----Dr. E. W. Weirich
 Colusa County—
 Dr. C. A. Poage-----Colusa
 Colusa-----Dr. C. A. Poage
 Contra Costa County—
 Dr. W. S. George-----Antioch
 Antioch-----Dr. W. S. George
 Concord-----Dr. F. F. Neff
 Hercules-----Dr. M. L. Fernandez
 Martinez-----Dr. Edwin Merrithew
 Pinole-----Dr. M. L. Fernandez
 Pittsburg-----Dr. F. S. Gregory
 Richmond-----Dr. Chas. R. Blake
 Del Norte County—
 Dr. E. M. Fine-----Crescent City
 Crescent City-----Dr. E. M. Fine
 El Dorado County—
 Dr. L. M. Leisenring-----Placerville
 Placerville-----P. J. Hall
 Fresno County—
 Dr. G. L. Long-----Fresno
 Clovis-----Dr. M. S. McMurtry
 Coalinga-----Dr. C. W. Hutchison
 Fowler-----Dr. C. O. Mitchel
 Fresno-----Dr. L. R. Willson
 Kingsburg-----Dr. J. A. Gillespie
 Reedley-----Dr. J. D. Hare
 Sanger-----Dr. C. H. Powers
 Selma-----Dr. O. H. Steinwand
 Glenn County—
 Dr. J. A. Randolph-----Willows
 Orland-----Dr. D. L. Martin
 Willows-----Dr. J. T. Gardner
 Humboldt County—
 Dr. Carl T. Wallace-----Eureka
 Arcata-----Dr. G. W. McKinnon
 Blue Lake-----Dr. G. N. Wood
 Eureka-----Dr. L. A. Wing
 Ferndale-----Dr. J. A. Lane
 Fortuna-----Dr. Orville Rockwell
 Imperial County—
 Dr. Virgil McCoombs-----El Centro
 Brawley-----S. A. Armstrong
 Calexico-----Dr. W. F. Smith
 El Centro-----M. A. Stover
 Holtville-----
 Imperial-----Dr. C. E. Standlee
 Inyo County—
 Dr. I. J. Woodin-----Independence
 Bishop-----Dr. C. E. Turner

Kern County—
 Dr. G. M. Bumgarner-----Bakersfield
 Bakersfield-----H. Farris
 Maricopa-----Dr. H. N. Taylor
 Taft-----Dr. F. C. Galehouse
 Tehachapi-----Dr. N. J. Brown, Jr.
 McKittrick-----G. M. Chittwood
 Kings County—
 Dr. C. L. Scott-----Hanford
 Lemoore-----Dr. W. P. Byron
 Hanford-----Dr. C. L. Scott
 Lake County—
 Dr. W. E. Upton-----Kelseyville
 Kelseyville-----Dr. W. E. Upton
 Lakeport-----J. G. West
 Lassen County—
 Dr. W. E. Dozier-----Susanville
 Susanville-----Dr. E. S. Drucks
 Los Angeles County—
 Dr. E. O. Sawyer-----Los Angeles
 Alhambra-----Dr. F. E. Corey
 Arcadia-----Dr. Chas. E. Nordhoff
 Avalon-----Percy E. Mackey
 Azusa-----Dr. L. W. Atkinson
 Burbank-----Dr. E. H. Thompson
 Claremont-----Dr. F. W. Thomas
 Compton-----J. W. Stone
 Covina-----Dr. J. D. Reed
 Eagle Rock-----Dr. C. H. Phinney
 El Monte-----Dr. S. L. Corpe
 Glendale-----Dr. R. E. Chase
 Glendora-----Dr. C. H. Wood
 Hermosa Beach-----B. F. Brown
 Huntington Park-----Dr. W. Thompson
 Inglewood-----Dr. H. A. Putnam
 Long Beach-----Dr. R. L. Taylor
 Lordsburg-----Dr. J. E. Hubble
 Los Angeles-----Dr. L. M. Powers
 Manhattan Beach-----E. M. Jenkins
 Monrovia-----Dr. J. L. Pomeroy
 Pasadena-----Dr. Stanley P. Black
 Pomona-----Dr. Will H. Holmes
 Redondo Beach-----Dr. D. R. Hancock
 San Fernando-----Dr. Kenneth W. Allen
 San Gabriel-----Dr. Ruth Purcell
 San Marino-----
 Santa Monica-----Dr. Chas. G. Shipman
 Sawtelle-----Dr. W. O. Blanchar
 Sierra Madre-----Dr. R. H. Mackerras
 South Pasadena-----Dr. C. F. Metcalf
 Tropico-----Dr. Wm. C. Mabry
 Venice-----Dr. W. M. Kendall
 Vernon-----Dr. O. R. Stafford
 Watts-----Dr. J. L. Lamb
 Whittier-----Dr. W. H. Stokes
 Madera County—
 Dr. Dow H. Ransom-----Madera
 Madera-----Dr. L. St. John Hely
 Marin County—
 Dr. J. H. Kuser-----Novato
 Belvedere-----Dr. Florence Scott
 Larkspur-----Dr. J. E. McCue
 Mill Valley-----Capt. M. Staples
 Ross-----C. A. Meussdorffer
 San Anselmo-----Dr. O. W. Jones
 San Rafael-----Dr. W. J. Stone
 Sausalito-----Dr. A. H. Mays
 Mariposa County—
 Dr. J. M. Hicks-----Mariposa
 Mendocino County—
 Dr. Judson Liftchild-----Ukiah
 Fort Bragg-----Dr. L. C. Gregory
 Point Arena-----N. A. McCallum
 Potter Valley-----W. T. Eddie
 Ukiah-----Dr. J. Liftchild
 Willits-----Dr. F. C. Gunn

LIST OF COUNTY AND CITY HEALTH OFFICERS—Continued.

Merced County—
 Dr. C. H. Castle—Merced
 Los Banos—Dr. J. L. McClelland
 Merced—Dr. Brett Davis
 Modoc County—
 Dr. W. E. Coppedge—Alturas
 Alturas—Dr. W. E. Coppedge
 Mono County—
 Dr. R. A. Cushman—Bridgeport
 Monterey County—
 Dr. Garth Parker—Salinas
 King City—Dr. D. Brumwell
 Monterey—R. L. Anderson
 Pacific Grove—Charles E. Tuck
 Salinas—F. A. Abbott
 Napa County—
 Dr. C. H. Bulson—Napa
 Calistoga—Dr. Henry Abrons
 Napa—Alex. Hull
 St. Helena—W. A. Bingham
 Nevada County—
 Dr. Carl P. Jones—Grass Valley
 Grass Valley—Paul E. Sears
 Nevada City—Hugh Murchie
 Orange County—
 Dr. John Wehrly—Santa Ana
 Anaheim—Dr. J. L. Beebe
 Fullerton—Dr. J. H. Lang
 Huntington Beach—Dr. G. A. Shank
 Newport Beach—J. A. Porter
 Orange—Dr. F. L. Chapline
 Santa Ana—Dr. J. I. Clark
 Stanton—Wm. H. Kennedy, Jr.
 Placer County—
 Dr. Theodore Snypp—East Auburn
 Auburn—A. S. Waldo
 Colfax—Dr. R. A. Peers
 Lincoln—F. R. Elder
 Rocklin—E. G. Nelson
 Roseville—F. H. Evans
 Plumas County—
 Dr. M. B. Bolton—Quincy
 Riverside County—
 Dr. Geo. E. Tucker—Riverside
 Banning—Dr. L. M. Ryan
 Beaumont—Dr. T. F. Taylor
 Corona—Dr. W. S. Davis
 Elsinore—Dr. George D. Keeler
 Hemet—Dr. A. B. Eadie
 Perris—A. F. Hardy
 Riverside—Dr. Thomas R. Griffith
 San Jacinto—Thos. Lloyd
 Sacramento County—
 Dr. Hugh Beattie—Elk Grove
 Sacramento—Dr. N. E. Williamson
 San Benito County—
 Dr. J. M. O'Donnell—Hollister
 Hollister—Dr. R. G. Curtis
 San Juan—W. E. Hodges
 San Bernardino County—
 Dr. Philip M. Savage, San Bernardino
 Chino—Dr. John W. Callnon
 Colton—Dr. J. A. Champion
 Needles—Dr. A. S. Parker
 Ontario—Dr. C. S. Orr
 Redlands—Dr. Chas. E. Ide
 Rialto—Dr. T. R. McHugh
 San Bernardino—Dr. J. W. Aldridge
 Upland—E. R. Bowman
 San Diego County—
 Dr. O. G. Wicherski—San Diego
 Chula Vista—Dr. David C. Perry
 Coronado—Dr. R. Lorini
 East San Diego—E. A. Crockert
 Escondido—Dr. David Crise
 La Mesa—Dr. J. A. Parks
 National City—Dr. Will L. Allen
 Oceanside—Dr. R. S. Reid
 San Diego—Dr. F. H. Mead

San Francisco (city and county)—
 Dr. R. G. Brodrick—San Francisco
 San Joaquin County—
 Dr. I. S. Zeimer—Stockton
 Lodi—Dr. F. W. Colman
 Stockton—Dr. E. A. Arthur, Acting
 Tracy—Dr. J. G. Murrell
 San Luis Obispo County—
 Dr. H. M. Cox—San Luis Obispo
 Arroyo Grande—Dr. C. S. Clark
 Paso Robles—H. M. Bayne
 San Luis Obispo—W. F. Cook
 San Mateo County—
 Dr. W. G. Beattie—Colma
 Burlingame—H. W. Rike
 Daly City—Dr. Geo. L. Marion
 Hillsborough—C. M. Hirschey
 Redwood City—Dr. J. L. Ross
 San Mateo—Dr. W. C. McLean
 South San Francisco—Dr. Ivan W. Keith
 Santa Barbara County—
 Dr. J. C. Bainbridge—Santa Barbara
 Lompoc—Dr. F. A. Brown
 Santa Barbara—Dr. R. F. Winchester
 Santa Maria—Dr. O. P. Paulding
 Santa Clara County—
 Dr. Wm. Simpson—San Jose
 Alviso—Dr. J. I. Beattie
 Gilroy—Dr. John A. Clark
 Los Gatos—Dr. R. Seldon Anthony
 Mayfield—Dr. F. M. Seibert
 Morgan Hill—Dr. F. W. Watt
 Mountain View—Dr. A. H. McFarlane
 Palo Alto—H. F. Gray
 San Jose—Dr. J. J. Kocher
 Santa Clara—Dr. J. I. Beattie
 Santa Cruz County—
 Dr. Wm. H. Keck—Santa Cruz
 Boulder Creek—Dr. C. A. Van Tine
 Santa Cruz—Dr. H. E. Piper
 Watsonville—Dr. F. H. Koepke
 Shasta County—
 Dr. E. W. Sevenman—Redding
 Coram—Geo. H. Thomas
 Kennett—Dr. J. P. Sandholt
 Redding—Dr. B. F. Saylor
 Sierra County—
 Dr. R. B. Davy—Downieville
 Loyalton—Dr. G. L. Coates
 Siskiyou County—
 Dr. F. J. McNulty—Yreka
 Dorris—Dr. A. A. Atkinson
 Dunsmuir—H. Woodward
 Etna—Dr. W. H. Haines
 Fort Jones—Thos. Bransom
 Montague—Dr. Chas. A. Pius
 Sisson—Dr. Grant Safely
 Yreka—Dr. J. Roy Jones
 Solano County—
 Dr. S. G. Bransford—Suisun
 Benicia—Dr. W. L. McFarland
 Dixon—C. L. Apperson
 Fairfield—Dr. S. G. Bransford
 Rio Vista—Dr. A. J. McKinnon
 Suisun—Dr. S. G. Bransford
 Vacaville—Dr. H. P. Palmer
 Vallejo—Dr. E. A. Peterson
 Sonoma County—
 Dr. S. S. Bogle—Santa Rosa
 Cloverdale—Dr. Cory C. Ledyard
 Healdsburg—Dr. J. W. Seawell
 Petaluma—Dr. R. B. Duncan
 Santa Rosa—Dr. Jackson Temple
 Sebastopol—Dr. J. J. Keating
 Sonoma—Dr. A. M. Thompson
 Stanislaus County—
 Dr. J. L. Hennemuth—Modesto
 Modesto—Dr. E. V. Falk
 Newman—Dr. H. V. Armistead
 Oakdale—Dr. F. W. McKibbin
 Turlock—Dr. G. C. Saunders

LIST OF COUNTY AND CITY HEALTH OFFICERS—Continued.

Sutter County—
 Dr. E. V. Jacobs-----Meridian
 Yuba City-----Dr. John McFadyen
 Tehama County—
 Dr. W. F. Maggard-----Corning
 Corning-----Dr. O. F. Rudolph
 Red Bluff-----Dr. F. J. Bailey
 Tehama-----Dr. M. E. Poket
 Trinity County—
 Dr. D. B. Fields-----Weaverville
 Tulare County—
 Dr. W. A. Preston-----Visalia
 Dinuba-----Dr. Wm. Whittington
 Exeter-----Dr. P. A. Mix
 Lindsay-----Dr. W. W. Tourtillot
 Porterville-----Dr. O. C. Higgins
 Tulare-----Dr. J. B. Rosson
 Visalia-----Dr. W. A. Preston

Tuolumne County—
 Dr. Wm. L. Hood-----Sonora
 Sonora-----W. H. Dennis
 Ventura County—
 Dr. A. A. Maulhardt-----Oxnard
 Oxnard-----Dr. Ralph W. Avery
 Ventura-----J. H. Hardey
 Santa Paula-----Dr. B. E. Merrill
 Yolo County—
 Dr. W. J. Blevins-----Woodland
 Winters-----Dr. J. H. Haile
 Woodland-----Peter Scott
 Yuba County—
 Dr. J. H. Barr-----Marysville
 Marysville-----Dr. Fred B. Tapley
 Wheatland-----W. H. Niemeyer